

CAS 119-93-7

Substance name 3,3'-Dimethylbenzidine (also called *ortho*-Tolidine)

Toxicity

3,3'-Dimethylbenzidine and dyes metabolized to 3,3'-dimethylbenzidine are listed as carcinogens by authoritative sources.¹⁻⁴ Evidence is based on cancer of the skin, liver, oral cavity, intestinal tract, lung, and mammary gland observed in test animals.^{2,5}

Exposure

3,3'-Dimethylbenzidine has been used as a dye or an intermediate for producing a large number of dyestuffs and pigments.² These dyes have been used to color leather, textiles, and paper.⁶ 3,3'-Dimethylbenzidine is also used in the production of polyurethane-based elastomers, coatings, and rigid plastics.⁶ Danish EPA testing of hobby products marketed to children found it in a gel pen.⁷

References

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3. California EPA, Office of Environmental Health Hazard Assessment. List of Chemicals Known to the State to Cause Cancer or Reproductive Toxicity. February 5, 2010. http://www.oehha.org/prop65/prop65_list/files/P65single020510.pdf.
4. European Commission, Joint Research Centre, Institute for Health and Consumer Protection. European Chemical Substances Information System (ESIS) file for 4,4'-bi-o-toluidine (CAS# 119-93-7). <http://ecb.jrc.ec.europa.eu/esis/>.
5. Daniel L. Morgan, June K. Dunnick, Thomas Goehl, Michael R Jokinen, H. B. Matthews, Errol Zeiger and John H. Mennear (1994) Summary of the National Toxicology Program Benzidine Dye Initiative. Environ Health Perspect 102(Suppl 2):63-78.
6. National Institutes of Health, National Library of Medicine Hazardous Substances Data Bank <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB> Accessed May 2010.
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